

REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Office Action, the Examiner rejected claims 1 and 4-9, under 35 U.S.C. §103(a) as allegedly being unpatentable over Mains '825 (U.S. Patent No. 1,824,825) in view of Masato '231 (Japanese Application No. 07-205231).

By this Amendment, independent claim 1 has been amended to provide a clearer presentation of the claimed subject matter. Applicants submit that no new matter has been introduced. As such, claims 1 and 4-9 are currently presented for examination, of which claim 1 is the sole independent claim.

Applicants respectfully traverse the prior art rejections, under 35 U.S.C. §103(a), for the reasons presented below.

I. Prior Art Rejections Under 35 U.S.C. §103(a).

As indicated above, amended independent claim 1 is directed to an injection molding process for producing a disk-shape resin molded article. To this end, claim 1 positively recites that in the molding process, the web site is pressed in a thickness direction, and at least one site selected from the group consisting of a lateral outer region or a lateral outer side of the boss and a lateral inner side edge of the rim is pressed partially in a thickness direction. These features are amply supported by the embodiments described in the Specification.

In contrast to the Examiner's assertions, there is nothing in the asserted references that teach each and every element of claim 1, including the features indicated above. In particular, the Mains '825 reference is directed to providing a gear blank having a rim composed of *laminations* which are flared outwardly at the edge of the rim, to prevent chipping of the material or separation of the laminations during the tooth cutting operation. (See, Mains '825: page 1, lines 8-13). Consistent with this, Mains '825 discloses the use of a stationary block 3, having a flat bottom and an upper surface 4 conforming to the lower face of the gear blank, is placed inside the wall 2 to constitute the bottom of the mold. A stud or bolt 5, inserted in the bottom of the mold and extending through the central portion of the stationary block, serves as a support for a metal hub 6. Then, *fibrous material is then inserted in the mold and*

pressure is applied by the action of a platen or ram acting upon a movable block 7 which has a flat upper surface and a lower surface 8 conforming to the upper face of the gear blank. (See, Mains '825: page 2, lines 3-16).

Mains '825 also discloses that a folded strip is then helically wound around a suitable form or mandrel, and the ring shaped *laminations* thus formed are placed on the interior of a mold having an upwardly extending central portion. And, *fibrous material*, such as cotton flock, or duck that has been suitably shredded, chopped, or cut into small pieces, and which has been impregnated with a suitable binder or mixed with a resin, *is placed in the mold between the laminated material* and the upwardly extending central portion and pressure is applied to *compact the shredded or chopped material* and forces it against the external rim portion, forming a unitary structure consisting of the rim and the web. In forming the finished gear blank, the hub 6 is placed on the central stud 5 which extends upwardly from the bottom of the mold. The lower shrouds or discs 11, the previously formed unitary structure consisting of the rim and web, and upper shrouds or discs 12, *all impregnated with a suitable binder, such as a phenolic condensation product*, are disposed around the central hub” (See, Mains '825: page 2, lines 26-52).

Mains '825 further discloses that the assembled parts of the gear are then subjected to heat and pressure, the heat causing the binder to flow and the pressure compacting the softened material. Upon subsequent and continued application of heat and pressure, the entire mass solidifies to form a composite integral structure. (See, Mains '825: page 2, lines 63-69; Fig. 5).

In so doing, Mains '825 clearly fails to teach or suggest an *injection molding process* for producing a disk-shape resin molded article, as required by claim 1. That is, Mains '825 specifically discloses that the gear blank has a layered or *lamination structure* composed of fibrous material impregnated with a *phenolic condensation product* (i.e., thermosetting resin) and the mass is solidified by continued application of heat and pressure to form the composite structure. It will be appreciated by artisans of ordinary skill that the Mains '825 process is entirely different from the claimed injection molding process.

Moreover, there is nothing in Mains '825 that teaches or suggests partially pressing of the specific site of the boss and/or the rim. That is, pressing not only the lateral outer region

(or lateral outer side edge) of the boss but also the lateral inner edge side of the rim partially, as required by claim 1.

Applicants submit that the remaining reference, Masato '231, fails to cure the deficiencies noted above regarding Mains '825. Specifically, Masato '231 teaches that the molten resin **80** in the metal mold is pressed with the resin pressing surface **6**, formed at the side of the pressing piston **7**, and the resin reflecting surface **9**, formed at the side of the upper surface-forming metal mold **1A**, respectively, in each of the arrow U1 direction and the arrow D1 direction, and the molten resin **80** is pressed to the reflection surface-forming metal mold **5**. Thus, the flatness of the reflecting surface **15** of the rotary polygon mirror **10A** can be improved remarkably. (See, Masato '231: par. [0031]).

As such, Masato '231 teaches pressing the edge of the boss with an inclined surface of the piston (the resin-pressing surface **6**, the resin reflecting surface **9**), and in so doing, Masato '231 is incapable of pressing the lateral side edge of the boss and rim, as required by claim 1.

For at least these reasons, Applicants submit that none of these references, whether taken alone or in reasonable combination, teach the claimed combination of elements recited by amended claim 1. Thus, claim 1 is patentable over the references. And, because claims 4-9 depend from claim 1, claims 4-9 are also patentable by virtue of dependency as well as for their additional recitations. Accordingly, Applicants requests the immediate withdrawal of the prior art rejections of claims 1 and 4-9.

II. Conclusion.

All matters having been addressed, Applicants respectfully requests the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants submits that the entry of this Amendment is proper under 37 C.F.R. §1.116, as the claim changes: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not require any further consideration; and (c) places the application in better form for an Appeal, should an Appeal be necessary.

Applicants' Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue in which the Examiner feels may be best resolved through a personal or telephone interview, please contact the Undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number **03-3975**. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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